

same to read

follows:

--1. (Amended) A communication system comprising:

a base station device having transmission means for carrying out a communication of a down link to a communication terminal device by using a multi-carrier signal having data dispersed to a plurality of subcarriers for transmission, and receiving means for receiving a single-carrier signal transmitted from the communication terminal device and demodulating the data thereof; and

A.
Cont.
[a] the communication terminal device having transmission means for carrying out the communication of an up link to the base station device by using [a] the single-carrier signal, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to [a] the plurality of subcarriers transmitted from the base station device and demodulating [the] received data.

--2. (Amended) A communication system comprising:

B.
a base station device having transmission means for carrying out a communication of a down link to a communication terminal device by using a multi-carrier signal having data dispersed to a plurality of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having data dispersed to [a] the plurality of subcarriers or a single-carrier signal transmitted from the communication terminal

device and demodulating the data thereof;

31
A.
Cont.
a first communication terminal device having transmission means for carrying out the communication of an up link to the base station device by using [a] the multi-carrier signal having data dispersed to [a] the plurality of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to [a] the plurality of subcarriers transmitted from the base station device and demodulating [the] received data; and

a second communication terminal device having transmission means for carrying out the communication of [an] the up link to the base station device by using [a] the single-carrier signal, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to [a] the plurality of subcarriers transmitted from the base station device and demodulating the received data.

--3. (Amended) The communication system as claimed in claim 2, wherein the second communication terminal device further includes carrier control means for controlling the transmission means [so as] to carry out the communication of the up link to the base station device by using a predetermined subcarrier of the plurality of subcarriers.

--4. (Amended) The communication system as claimed in claim 2, wherein the base station device further includes timing control means for controlling the transmission means [so as] to

carry out the communication of the down link at a predetermined slot timing within a frame having a plurality of slots,

the first communication terminal device further includes transmission control means for controlling the transmission means [so as] to carry out the communication of the up link at a first slot timing set within the frame, and

the second communication terminal device further includes timing control means for controlling the transmission means [so as] to carry out the communication of the up link at a second slot timing set within the frame.

--5. (Amended) The communication system as claimed in claim

2, wherein the base station device further includes discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the single-carrier signal, so that demodulation processing conforming to a received signal is carried out by the receiving means on the basis of [the] a result of the discrimination means.

--6. (Amended) A communication system comprising:

a base station device having transmission means for carrying out communication of a down link to a communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2), and receiving means for receiving [a] the multi-carrier signal having the data dispersed to j units of subcarriers (where j is an integer smaller than m)

transmitted from the communication terminal device and demodulating the data thereof; and

[a] the communication terminal device having transmission means for carrying out communication of an up link to the base station device by using [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having data dispersed to m units of subcarriers transmitted from the base station device and demodulating [the] received data.

--). (Amended) A communication system comprising:

A,
Cont.
B
a base station device having transmission means for carrying out a communication of a down link to a communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2), and receiving means for receiving [a] the multi-carrier signal having the data dispersed to m or j units of subcarriers (where j is an integer smaller than m) transmitted from the communication terminal device and demodulating the data thereof;

a first communication terminal device having transmission means for carrying out communication of an up link to the base station device by using [a] the multi-carrier signal having the data dispersed to m units of subcarriers for transmission, and receiving means for receiving [a] the multi-

carrier signal having the data dispersed to m units of subcarriers transmitted from the base station device and demodulating the received data; and

32 a second communication terminal device having transmission means for carrying out communication of [an] the up link to the base station device by using [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to m units of subcarriers transmitted from the base station device and demodulating [the] received data.

Al
Cat.
--8. (Amended) The communication system as claimed in claim 7, wherein the second communication terminal device further includes carrier control means for controlling the transmission means [so as] to carry out the communication of the up link by using predetermined j units of subcarriers of the m units of subcarriers.

--9. (Amended) The communication system as claimed in claim 7, wherein the base station device further includes timing control means for controlling the transmission means [so as] to carry out the communication of the down link at a predetermined slot timing within a frame having a plurality of slots,

the first communication terminal device further includes timing control means for controlling the transmission means [so as] to carry out the communication of the up link at

a first slot timing set within the frame, and

the second communication terminal device further includes timing control means for controlling the transmission means so as to carry out the communication of the up link at a second slot timing set within the frame.

Am
Cont.
--10. (Amended) The communication system as claimed in claim 7, wherein the base station device further includes discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the multi-carrier signal using j units of subcarriers, so that demodulation processing conforming to a received signal is carried out by the receiving means on the basis of the result of discrimination of the discrimination means.

BB
--11. (Amended) A communication system comprising:

a base station device having transmission means for carrying out communication of a down link to a communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2), and receiving means for receiving [a] the multi-carrier signal having the data dispersed to m or j units of subcarriers (where j is an integer smaller than m) or a single-carrier transmitted from the communication terminal device and demodulating the data thereof;

a first communication terminal device having transmission means for carrying out the communication of an up

link to the base station device by using [a] the multi-carrier signal having the data dispersed to m units of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to m units of subcarriers transmitted from the base station device and demodulating [the] received data;

B3
A1
Cat.
a second communication terminal device having transmission means for carrying out communication of [an] the up link to the base station device by using [a] the multi-carrier signal having data dispersed to j units of subcarriers for transmission, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to m units of subcarriers transmitted from the base station device and demodulating the received data; and

a third communication terminal device having transmission means for carrying out the communication of [an] the up link to the base station device by using the single-carrier, and receiving means for receiving [a] the multi-carrier signal having the data dispersed to a plurality of subcarriers transmitted from the base station device and demodulating the received data.

--12. (Amended) The communication system as claimed in claim 11, wherein the second communication terminal device further includes carrier control means for controlling the transmission means [so as] to carry out the communication of the up link by

using predetermined j units of subcarriers of the m units of subcarriers, and

the third communication terminal device further includes carrier control means for controlling the transmission means [so as] to carry out communication of the up link by using a predetermined subcarrier of the m units of subcarriers.

--13. (Amended) The communication system as claimed in claim 11, wherein the base station device further includes timing control means for controlling the transmission means [so as] to carry out the communication of the down link at a predetermined slot timing within a frame having a plurality of slots, and

A1
CA
each of the first second and third communication terminal devices further includes respective timing control means for controlling each transmission means [so as] to carry out the communication of the up link at each predetermined slot timing allocated within the frame having [a] the plurality of slots.

--14. (Amended) The communication system as claimed in claim 11, wherein the base station device further includes discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the multi-carrier signal using j units of subcarriers, so the demodulation processing conforming to a received signal is carried out by the receiving means on the basis of [the] a result of discrimination of the discrimination means.

--15. (Amended) A base station device for carrying out

bidirectional data communication with a communication terminal device, the base station device comprising:

transmission means for carrying out communication of a down link to the communication terminal device by using a multi-carrier signal having data dispersed to a plurality of subcarriers for transmission; and

receiving means for receiving a single-carrier signal transmitted from the communication terminal device and demodulating [the] data thereof.

--16. (Amended) A base station device for carrying out bidirectional data communication with a communication terminal device, the base station device comprising:

transmission means for carrying out communication of a down link to the communication terminal device by using a multi-carrier signal having data dispersed to a plurality of subcarriers for transmission; and

receiving means for receiving [a] the multi-carrier signal having data dispersed to [a] the plurality of subcarriers or a single-carrier signal transmitted from the communication terminal device and demodulating [the] data thereof.

--17. (Amended) The base station device as claimed in claim 16, further comprising receiving control means for controlling the receiving means [so as] to receive [a] the single-carrier signal to which a predetermined subcarrier of [a] the plurality of subcarriers is allocated and demodulate the data thereof.

--18. (Amended) The base station device as claimed in claim 16, further comprising receiving control means [so as] to receive the multi-carrier signal at a first slot timing set within a frame having a plurality of slots and demodulate the data thereof, and to receive the single-carrier signal at a second slot timing set within the frame and demodulate the data thereof.

--19. (Amended) The base station device as claimed in claim 16, further comprising discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the single-carrier signal, so that demodulation processing conforming to a received signal is carried out by the receiving means on the basis of [the] a result of discrimination of the discrimination means.

A1
Cont.
--20. (Amended) A base station device for carrying out bidirectional data communication with a communication terminal device the base station device comprising:

transmission means for carrying out communication of a down link to the communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2); and

receiving means for receiving [a] the multi-carrier signal having the data dispersed to j units of subcarriers (where j is an integer smaller than m) transmitted from the communication terminal device and demodulating the data thereof.

--21. (Amended) A base station device for carrying out bidirectional data communication with a communication terminal device, the base station device comprising:

transmission means for carrying out communication of a down link to the communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2); and

receiving means for receiving [a] the multi-carrier signal having data dispersed to m or j units of subcarriers (where j is an integer smaller than m) transmitted from the communication terminal device and demodulating the data thereof.

--22. (Amended) The base station device as claimed in claim 21, further comprising receiving control means for controlling the receiving means [so as] to receive [a] the multi-carrier signal to which predetermined j units of subcarriers of m units of subcarriers allocated and demodulate the data thereof.

--23. (Amended) The base station device as claimed in claim 21, further comprising receiving control means for controlling the receiving means [so as] to receive [a] the multi-carrier signal transmitted with the data dispersed to m units of subcarriers at a first slot timing set within a frame having a plurality of slots and demodulate the data thereof, and to receive [a] the multi-carrier signal transmitted with the data dispersed to j units of subcarriers at a second slot timing set

within the frame and demodulate the data thereof.

--24. (Amended) The base station device as claimed in claim 21, further comprising discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the multi-carrier signal using j units of subcarriers, so that demodulation processing conforming to a received signal is carried out by the receiving means on the basis of [the] a result of discrimination of the discrimination means.

--25. (Amended) The base station device as claimed in claim 21, wherein the receiving means further includes a filter having a passband width corresponding to the number of subcarriers of [a] the multi-carrier signal to be demodulated, [so as] to decode data from [a] the received signal obtained through the filter.

--26. (Amended) The base station device as claimed in claim 21, wherein the receiving means further includes a filter having a first passband width and [a] the filter having a second passband width broader than the first passband width, [so as] to receive [a] the multi-carrier signal transmitted through the filter of the first passband width with the data dispersed to j units of subcarriers and demodulate the data thereof, and to receive [a] the multi-carrier signal transmitted through the filter of the second passband width with the data dispersed to m units of subcarriers and demodulate the data thereof.

--27. (Amended) A base station device for carrying out

bidirectional data communication with a communication terminal device, the base station device comprising:

transmission means for carrying out communication of a down link to the communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2); and

receiving means for receiving [a] the multi-carrier signal having the data dispersed to m or j units of subcarriers (where j is an integer smaller than m) or a single-carrier signal transmitted from the communication terminal device and demodulating the data thereof.

--28. (Amended) The base station device as claimed in claim 27, further comprising receiving control means for controlling the receiving means [so as] to receive [a] the multi-carrier signal to which specified j units of subcarriers of m units of subcarriers are allocated or [a] the single-carrier signal to which a predetermined subcarrier is allocated and a demodulate the data thereof.

--29. (Amended) The base station device as claimed in claim 27, further comprising receiving control means for controlling the receiving means [so as] to receive [a] the multi-carrier signal transmitted with the data dispersed to m units of subcarriers at a first slot timing set within a frame having a plurality of slots and demodulate the data thereof, and to

receive [a] the multi-carrier signal transmitted with the data dispersed to j units of subcarriers or [a] the single-carrier signal at a second slot timing set within the frame and demodulate the data thereof.

Al
Cont.
--30. (Amended) The base station device as claimed in claim 27, further comprising discrimination means for discriminating [a] the multi-carrier signal using m units of subcarriers and [a] the multi-carrier signal using only j units of subcarriers or [a] the single-carrier signal, so that demodulation processing conforming to a received signal is carried out by the receiving means on [the] a basis of the result of discrimination of the discrimination means.

--31. (Amended) The base station device as claimed in claim 27, wherein the receiving means further includes a filter having a passband width corresponding to the number of subcarriers to be demodulated, [so as] to decode data from [a] the received signal obtained through the filter.

--32. (Amended) The base station device as claimed in claim 27, wherein the receiving means further includes a filter having a first passband width and [a] the filter having a second passband width broader than the first passband width, so as to receive [a] the multi-carrier signal transmitted through the filter of the first passband width with the data dispersed to j units of subcarriers or [a] the single-carrier signal and demodulate the data thereof, and to receive [a] the multi-

A1
Concl.
carrier signal transmitted through the filter of the second passband width with the data dispersed to m units of subcarriers and demodulate the data thereof.

--34. (Amended) The communication terminal device as claimed in claim 33, further comprising carrier control means for controlling the transmission means [so as] to carry out the communication of the up link to the base station device by using a predetermined subcarrier of [a] the plurality of subcarriers.

--35. (Amended) A communication terminal device for carrying out bidirectional communication with a base station device, the communication terminal device comprising:

A2
Concl.
transmission means for carrying out communication of an up link to the base station device by using a multi-carrier signal having data dispersed to j units of subcarriers for transmission; and

receiving means for receiving [a] the multi-carrier signal having the data dispersed to m units of subcarriers transmitted from the base station device and demodulating [the] received data.

--36. The communication terminal device as claimed in claim 35, further comprising carrier control means for controlling the transmission means [so as] to carry out the communication of the up link to the base station device by using predetermined j units of subcarriers of the m units of subcarriers.

BN
--38. (Amended) A communication method for carrying out bidirectional communication with a base station device, the method comprising:

carrying out communication of a down link from the base station device to a communication terminal device by using a multi-carrier signal having data dispersed to a plurality of subcarriers for transmission; and

carrying out communication of an up link from the communication terminal device to the base station device by using [a] the multi-carrier signal having data dispersed to [a] the plurality of subcarriers for transmission or a single-carrier signal.

A3
Cont
--39. (Amended) The communication method as claimed in claim 38, wherein the communication of the up link to the base station device is carried out by using a predetermined subcarrier of the plurality of subcarriers.

--40. (Amended) The communication method as claimed in claim 38, wherein communication between the base station device and the communication terminal device is carried out at a slot timing set within a frame having a plurality of slots, and

the communication of the up link from the communication terminal device to the base station device is carried out by using [a] the multi-carrier signal at a first slot timing set within the frame and by using [a] the single-carrier signal at a second slot timing set within the frame.

--41. (Amended) The communication method as claimed in claim 38, wherein [on the side of] at the base station device, [a] the multi-carrier signal using m units of subcarriers and [a] the single-carrier signal are discriminated so that demodulation processing conforming to a received signal is carried out on the basis of [the] a result of discrimination.

--42. (Amended) A communication method for carrying out bidirectional communication with a base station device, the method comprising:

AB
Cott
carrying out communication of a down link from the base station device to a communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2); and

carrying out communication of an up link from the communication terminal device to the base station device by using [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission (where j is an integer smaller than m).

BS
~~--43. (Amended) A communication method for carrying out bidirectional communication with a base station device, the method comprising:~~

~~carrying out communication of a down link from the base station device to a communication terminal device by using a multi-carrier signal having data dispersed to m units of~~

subcarriers for transmission (where m is an integer not smaller than 2); and

carrying out communication of an up link from the communication terminal device to the base station device by using [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission (where j is an integer smaller than m) or [a] the multi-carrier signal having the data dispersed to m units of subcarriers.

--44. The communication method as claimed in claim 43, wherein communication between the base station and the communication terminal device is carried out at a slot timing set within a frame having a plurality of slots, and

A3
cont.
communication of the up link from the communication terminal device to the base station device is carried out in a slot allocated only to [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission.

--45. (Amended) The communication method as claimed in claim 43, wherein the communication of the up link from the communication terminal device to the base station device is carried out by using [a] the multi-carrier signal having data dispersed to m units of subcarriers at a first slot timing set within a frame and by using [a] the multi-carrier signal having data dispersed to j units of subcarriers at a second slot timing set within the frame.

--46. (Amended) The communication method as claimed in claim

A3
Concl.

43, wherein [on the side of] at the base station device, [a] the multi-carrier signal using m units of subcarriers and [a] the multi-carrier signal using j units of subcarriers are discriminated so that demodulation processing conforming to a received signal is carried out on the basis of [the] a result of discrimination.

--48. (Amended) A communication method for carrying out bidirectional communication with a base station device, the method comprising:

carrying out communication of a down link from the base station device to a communication terminal device by using a multi-carrier signal having data dispersed to m units of subcarriers for transmission (where m is an integer not smaller than 2); and

A4
Cont.

carrying out the communication of an up link from the communication terminal device to the base station device by using [a] the multi-carrier signal having the data dispersed to m units of subcarriers for transmission, [a] the multi-carrier signal having the data dispersed to j units of subcarriers for transmission (where j is an integer smaller than m) or signal carrier signal.

--49. (Amended) The communication method as claimed in claim 48, wherein communication between the base station device and the communication terminal device is carried out at slot timing set within a frame cycle, and